U.S. Fish & Wildlife Service

Standard Prebles Meadow Jumping Mouse Conservation Measures

Preble's Meadow Jumping Mouse

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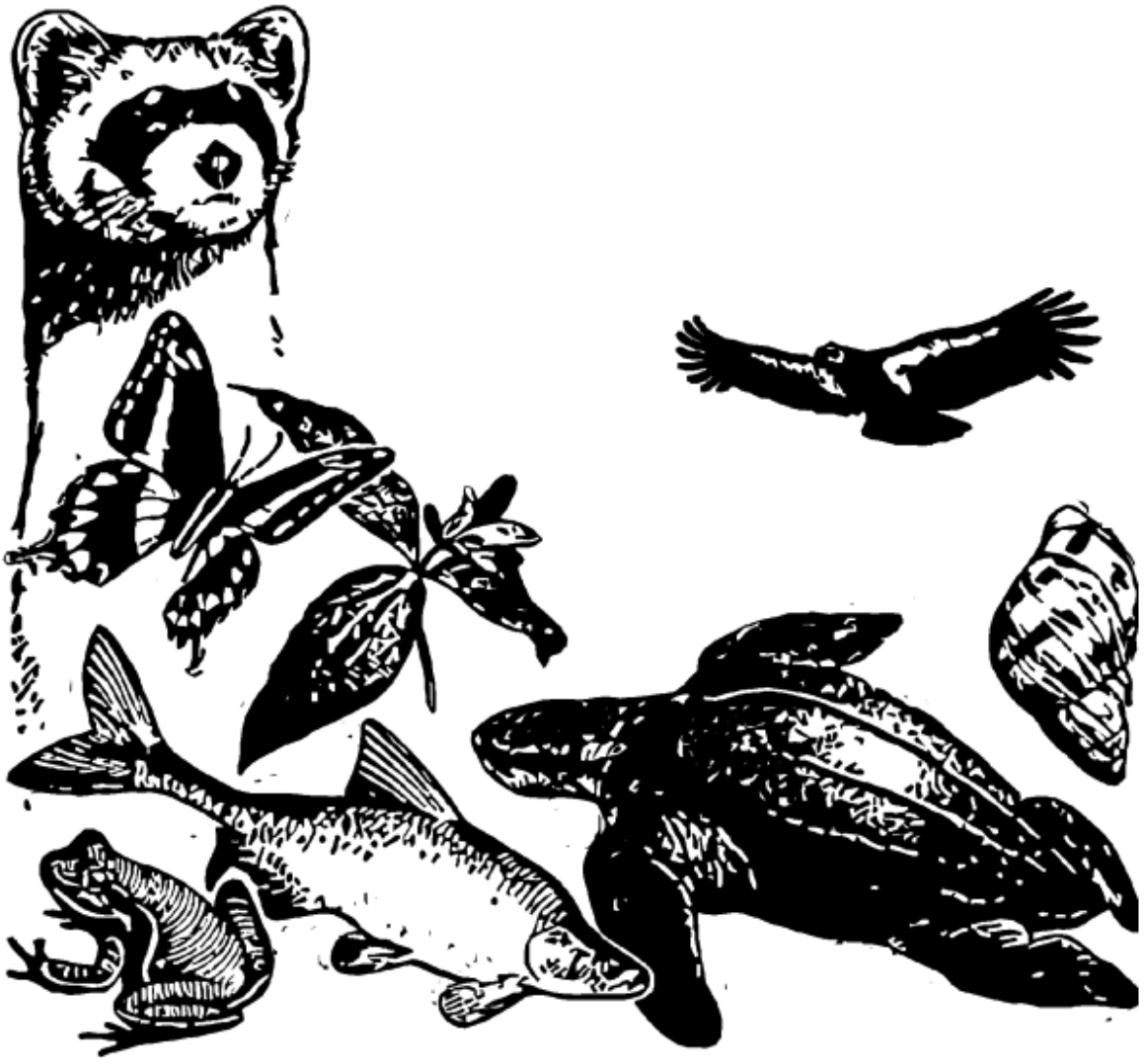

IPaC - Information for Planning and Consultation (https://ipac.ecosphere.fws.gov/): A project planning tool to help streamline the U.S. Fish and Wildlife Service environmental review process.

Recommended Conservation Measures
Preble's Meadow Jumping Mouse
USFWS April 2021

PRE-CONSTRUCTION DESIGN

1. Timing:
    - To minimize impacts to the Preble's mouse, plan project construction during the species' primary hibernation season (approximately November 1 – April 30).
        i. Trim potential hibernation habitat to ground level around the middle of August to discourage the mouse from hibernating in that area before construction begins.
        ii. Work site lighting would be restricted to the Preble's mouse hibernation season. Any temporary lighting installed will use downcast LED full-cutoff fixtures that comply with the International Dark-Sky Association's recommendations for outdoor illumination. Shielding and directing of lighting will be used to minimize light spill off the site.
    - For construction that must occur during the species' active season (May 1 through October 31):
        i. If habitat must be affected, clip vegetation to ground level one to two weeks prior to initiation of construction to discourage the project area's use by Preble's mice where the project intersects its habitat.
        ii. Work only during daylight hours to avoid disrupting Preble's mouse nocturnal activities.
2. Design the project to avoid and minimize permanent and temporary impacts to riparian and adjacent upland habitats.
    - Identify and prioritize riparian and adjacent upland habitats within the project area.
    - Design the project so that it avoids these habitats, or minimizes impacts if total avoidance is not possible.
    - Avoid fragmenting linear riparian corridors.
    - Minimize the number and footprint of access routes, staging areas, and work areas.
    - Locate access routes, staging areas, and work areas within previously disturbed or modified non-habitat areas. If that is not practicable, use a route that avoids damaging live or dormant vegetation.
    - Temporarily line access routes with geotextiles or other materials, especially in wet, unstable soils, to protect roots and the seed bank.
    - Install limits of work fencing (e.g., orange barrier netting or silt fencing), signage, or other visible markers to delineate access routes and the project area from protected habitats. Use this fencing to enforce no-entry zones.
    - Avoid or minimize the amount of concrete, riprap, bridge footings, and other "hard," impermeable engineering features intended to be constructed within the stream channel and riparian or adjacent upland habitats.
    - If riprap must be used, plan to bury the riprap with soil after construction is completed, and then plant with native riparian vegetation.
    - Where feasible, plan to use bioengineering techniques to stabilize stream banks.

- Maintain habitat connectivity under bridges or through culverts by installing ledges or dry culverts adjacent to the culverts with water flow. Design bridges that allow sunlight in to support vegetation cover, and allow shrubs to grow at either end of culverts.

3. Plan ahead to hold a preconstruction briefing for onsite personnel to explain the limits of work and other conservation measures.
4. Locate utilities along existing road corridors, and if possible, within the roadway or road shoulder.
    - Bury overhead utilities whenever possible.
    - Directionally bore utilities and pipes underneath riparian habitats.
5. Develop a habitat restoration plan that addresses site preparation, salvaging desirable shrubs and saplings, planting techniques, control of non-native weeds, native species seed mixtures, and post-construction monitoring.

PROJECT IMPLEMENTATION

6. Contact the US Fish and Wildlife Service (Service) immediately by telephone at (303) 236–4773 if a Preble's mouse is found alive, dead, injured, or hibernating within the project area. Please also contact the Service if any other listed species are found within the project area.
7. To the maximum extent practicable, limit disturbing (e.g., crushing, trampling) or removing (e.g., cutting, clearing) all native vegetation, such as willows, trees, shrubs, forbs and grasses within riparian and adjacent upland habitats.
    - Restrict the temporary or permanent removal of vegetation to the footprint of the project area.
    - Salvage desirable trees and shrubs for replanting.
8. Equipment Use:
    - Minimize the use of heavy machinery and use smaller equipment and hand tools when possible.
    - Locate, store, stage, operate, and refuel equipment outside of riparian or adjacent upland habitats.
    - Operate equipment from previously disturbed or modified roadbeds or road shoulders above the riparian habitats.
    - Limit the number of entrance and exit points leading into the project area.
9. Throughout the project's duration, follow regional stormwater management guidelines and design best management practices to control contamination, erosion, and sedimentation, and other controls needed to stabilize soils in denuded or graded areas. Stockpile topsoil, trash and debris outside the riparian corridor and protect from stream flows or runoff. Controls include but are limited to:
    - silt fences
    - silt basins
    - gravel bags
    - biodegradable and wildlife friendly netting and blankets
10. Wildlife Protection:
    - Utilize wildlife-proof garbage containers on site and promptly remove waste to minimize site disturbance and avoid attracting predators.
    - Cover exposed holes or piles of loose dirt with boards, tarps, or other materials to prevent entrapment.

11. Non-native and Invasive Species Control:
    - Wash away mud and debris, and thoroughly inspect vehicles and equipment before entering or leaving the project area so that they are free of noxious weed seeds and plant parts.
    - Use only certified weed-free materials, including gravel, sand, topsoil, seed, and mulch.
    - Invasive aquatic invertebrates: Resource management work often facilitates the spread of invasive species to unique and critical habitats for already endangered species. You are required to comply with the 2019 Colorado Revised Statutes on aquatic nuisance species (also known as the State Aquatic Nuisance Species Act; C.R.S. 33-10.5-101 through 108). See information on aquatic nuisance species in Colorado, including the State of Colorado Aquatic Nuisance Species Management Plan, which includes information on equipment inspection and decontamination.

POST-CONSTRUCTION

12. Complete construction before beginning restoration or enhancement activities.
13. Develop and implement a habitat restoration plan that addresses:
    - Burying riprap with soil, and then planting with native riparian vegetation
    - Control of non-native weeds
    - Filling and reseeding with weed-free material and native seed mixtures. IMPORTANT: Consult the Service before finalizing a seed species and plant species list.
    - Planting techniques
    - Post-construction monitoring: The Service can review, recommend, and approve success criteria during the consultation process, such as species composition, herbaceous vegetation height and density, and non-native species tolerance limits.
    - Revegetating all disturbed areas with native shrubs, trees, forbs, and grasses
    - Site preparation: Ripping compacted access routes prior to replanting with native vegetation
14. Place educational signage along retained or newly established trails in Preble's mouse habitat to inform users about the species and measures in place to protect it.
    - Use fencing to discourage public access into sensitive habitat.
    - Require pedestrians to stay on established trails and pets to be kept on leash.